

REMARKS

The Final Office Action mailed December 24, 2003, considered claims 23-32 and 38-52. Claim 52 was rejected under 35 U.S.C. § 102(e) as being anticipated by Ko (U.S. Patent No. 6,486,925). Claims 23-26, 29-30, 38-43, 46-47 and 50-51 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ko and in view of ISO/IEC 1-3818. Claims 27-28, 31-32, 44-45 and 48-49 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ko, in view of ISO/IEC 1-3818, and in further view of DeFreese (U.S. Patent No. 6,493,876)¹.

By this paper, claims 23, 28, 40 and 45 have been amended, claims 29-30 and 46-47 and 52 have been cancelled, and new claims 53-56² have been added. Accordingly claims 23-28, 31-32, 38-45, 48-51, 53-56 remain pending, of which claims 23 and 40 are the only independent claims at issue.³

Claims 23 and 40 both recite a method for tuning to channels of a plurality of different broadcast types, including digital broadcasts. The method includes storing a plurality of service records in a plurality of service spaces. Each of the service records contain tuning information for tuning to a channel of one of the plurality of broadcast types. When digital data streams are broadcast to the tuning system, additional tuning information is extracted from the digital data streams. This additional tuning information is necessary for subsequent tuning to the corresponding digital channels. The additional tuning information is then stored in the appropriate and corresponding service records. Then, a viewer selection is made of a service space from which a subsequent channel selection will be made. The appropriate tuner is then identified for use in tuning to the channels that correspond to the selected service space. A channel selection is then made from the selected service space. The selections of the service space and channel can be made, for example, from a graphical user interface, as recited in newly added claim 53-56.

¹ Although the prior art status of the cited art is not being challenged at this time, Applicants reserve the right to challenge the prior art status of the cited art at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.

² Support for the newly claimed embodiments involving the use of a graphical user interface (new dependent claims 53-56) is found in the specification beginning on page 21, line 16. Support for the amendments to dependent claims 28 and 45 is found on page 20, lines 20-24. The remaining new dependent claims include subject matter that was previously presented in claims 23 and 40.

³ The latest office action pointed out that the parenthetical identifiers of claims 30, 32, 47 and 52 were incorrectly recited. Of these claims, only claim 32 remains, which was amended in the last action. The designation of claim 32 now properly reflects that the claim was "previously presented."

Finally, the method includes accessing the service record corresponding to the selected channel from memory, which includes the extracted additional tuning information, and tuning to the selected channel with the tuning information and the extracted additional tuning information. The use of the extracted additional tuning information enables the tuning system to automatically tune into the selected channel without having to re-extract the additional tuning information that would otherwise be required to tune into the selected channel.

One of the benefits of tuning to channels, particularly digital channels, in the aforementioned manner is that a tuning system can efficiently and quickly tune to signals that require a multi-step operation, as described in the specification. For example, as noted by applicants in their specification,

Acquisition of a digital television signal is a multi-step operation that can be significantly slow. For instance, once a tune request is received, the tuner first monitors the digital video stream in order to extract tuning information such as the program number or program identifier from the video stream. Once this necessary [additional] information is extracted, the tuner can finally tune to the desired channel. The initial step of extracting the necessary tuning information can take significant time. Thus, many consumers find that the channel changing across digital channels can be annoyingly slow process. ...

If the user changes channels frequently, the user may be inconvenienced by the constant delay between channel changes. This is why channel changes in conventional digital television devices are rather sluggish, especially when channel changes occur frequently.

(p. 4, ll. 18-24; p. 19, ll. 1-10). Accordingly, by storing the additional tuning information of a particular digital broadcast stream, the tuning system is enabled to use this additional tuning information to quickly and efficiently return to and tune into a particular digital stream of a selected channel, rather than having to re-extract the additional tuning information prior to completing the tuning in process.

Additionally, one benefit for enabling the user to select the broadcast type prior to selecting a channel, such as through a graphical user interface, is that a viewer does not need to have a full knowledge about all of the channels that are offered on a certain broadcast type in order to make an informed selection, as suggested by Applicants specification (p. 4, ll. 15-17, p.

17, ll. 8-9). Support in the specification for such an embodiment is also specifically provided on page 6, ll. 18-19 and p. 20, ll. 3-7.

Applicants respectfully submit that the cited art does not anticipate or make obvious the claimed invention, as recited in the amended claims, either singly or in combination.

Ko, which is the primary reference, is directed to a system for managing channels assigned to analog, digital, cable and satellite broadcasts. As described, channel numbers 1 thru L are assigned to analog broadcast channels, channels 1+L thru m are assigned to cable broadcast channels, channels m+1 thru n are assigned to digital channels, and channels n+1 thru 0 are assigned to satellite broadcast channels. (Table 1; col. 5, ll. 35-41.) That way the tuning device knows what type of broadcast to tune to by a user's selection of a channel number. (Col. 2, ll. 47-50; Col. 6, ll. 35-45). Ko also mentions how channel information can be obtained and stored for tuning to the selected channels once they are selected. (Col. 5, 63-65; Col. 6, ll. 29-32).

Ko fails to describe, however, any method in which a user selects or identifies the broadcast type from which a subsequent channel selection will be made, as recited in the amended claims. In fact, Ko actually teaches away from such embodiments by stating that "the related art digital/analog TV has a problem that causes the user inconvenience because a desired channel should be tuned after determining a type of broadcasting." (Col. 2, ll. 36-38).

Accordingly, inasmuch as Ko teaches away from embodiments, such as the presently claimed embodiment, in which a broadcasting type is identified prior to the selection of a desired channel, it should not be found to anticipate or obviate the claimed invention.

DeFreese also fails to disclose or suggest a method in which a broadcast type is identified prior to the selection of a desired channel, wherein the desired channel is associated with a service record having both stored tuning information and additional tuning information that has been extracted from a broadcast, and such that the additional tuning information does not have to be re-extracted prior to tuning to the selected channel, as claimed. DeFreese, for example, fails to teach any method in which additional tuning information is extracted and stored for subsequent tuning.

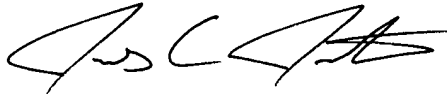
The ISO/ICE publication also fails to suggest or teach a method for use in a tuning system wherein a broadcast type is identified prior to the selection of a desired channel, wherein

the desired channel is associated with a service record having both stored tuning information and additional tuning information that has been extracted from a broadcast, and such that the additional tuning information does not have to be re-extracted prior to tuning to the selected channel, as claimed. Instead, the ISO/IEC publication was merely cited to suggest that PAT and PMT tables can contain additional tuning information such as program numbers, program identifiers and program bit stream type identifiers.

For at least the foregoing reasons, the applicants respectfully submit that the pending claims are neither anticipated by nor made obvious by the cited art of record, either singly or in combination. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 10 day of March 2004.

Respectfully submitted,



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